Claims

1. A distribution system for patient medical parameters, comprising:

a communication interface for acquiring patient parameters in a first data format from patient monitoring devices attached to a plurality of different patients, said patient parameters being acquired at a user selectable acquisition receiving interval;

a data processor using said communication interface for filtering acquired patient parameters for an individual patient to identify patient parameters meeting predetermined filtering criteria determinable by a user for,

(a) an individual parameter type, and

(b) an individual patient, and excluding other patient parameters; and

an output processor for converting said filtered identified parameters in said first data format to a different second data format and using said communication interface for output communication of said filtered identified patient parameters together with a parameter time and date of acquisition indication in said second data format.

2. A system according to claim 1, wherein

said second data format is a Health Level Seven (HL7) compatible data format and said communication interface automatically selects at least one of, (a) communication protocol and (b) destination port, in processing said filtered identified parameters in said first data format for output communication.

3. A system according to claim 1, including

a generator for generating data representing at least one displayed user interface image supporting user selection of,

(i) a particular patient parameter type,

(ii) an associated patient, and

(iii) associated predetermined filtering criteria.

4. A system according to claim 1, wherein

said data processor acquires patient parameters at a user selectable acquisition receiving interval selectable by a user for,

(i) an individual parameter type, and

(ii) an individual patient.

5. A system according to claim 1, wherein

said output processor uses said communication interface to communicate said filtered identified patient parameters together with a parameter time and date of acquisition indication and associated predetermined filter criteria in said second data format to a storage file associated with at least one of, (a) a patient electronic record, (b) an alarm file, (c) a raw data file and (d) a statistic compilation file.

6. A system according to claim 5, wherein

said output processor communicates data to said storage file based on identified data type.

7. A system according to claim 1, wherein

said output processor communicates data to a selected storage file in response to user storage file type selection command made via a displayed user interface image.

8. A system according to claim 1, wherein

said output processor communicates data to said storage file for at least one of, (a) overwriting of existing data in said storage file, and (b) adding to existing data in said storage file in response to user command.

9. A system according to claim 1, wherein

said output processor uses said communication interface for output communication of said filtered identified patient parameters together with appended data including at least one of, (a) a patient identifier, (b) a patient bed identifier, (c) a hospital unit identifier, (d) a parameter name, (e) a parameter type, (f) and an associated medical condition code set identifier.

10. A system according to claim 1, wherein

said individual parameter type includes at least one of, (a) heart rate, (b) respiratory rate, (c) blood oxygen saturation indicator, (d) ventilation related data indicator and (e) anatomical electrical activity indicator.

11. A system according to claim 1, wherein

said data processor adaptively averages values of an acquired patient parameter for an individual patient.

12. A system according to claim 1, wherein

said data processor adaptively averages values of an acquired patient parameter for an individual patient in response to user selection of a desired number of values over which said parameter is to be averaged.

13. A system for providing a user interface supporting selectively storing patient parameters in a patient medical record, comprising:

a generator for generating data representing at least one displayed user interface image supporting user selection of,

(i) a particular patient parameter type,

(ii) an associated patient, and

(iii) an associated patient parameter acquisition interval;

a data processor for acquiring patient parameters in a first data format based on said particular patient parameter type, associated patient and associated patient parameter acquisition interval; and

an output processor for converting said acquired patient parameters in said first data format to a different second data format for output communication of said acquired patient parameters together with a parameter time and date of acquisition indication in said second data format.

14. A system according to claim 13, wherein

said data processor adaptively averages values of an acquired patient parameter for an individual patient to provide an average value and

for a patient parameter of said particular parameter type,

said at least one displayed user interface image supports user selection of a user determined number of values of said particular parameter to be used in computing a mean value.

15. A system according to claim 14, wherein

said data processor adaptively averages values of an acquired patient parameter by computing at least one of, (a) a rolling average and (b) a block average.

16. A system for selectively distributing patient parameters, comprising:

a user interface command processor for receiving commands entered via at least one displayed user interface image supporting user selection of,

(i) a particular patient parameter type,

(ii) an associated patient, and

(iii) an associated patient parameter acquisition interval;

a data processor for acquiring patient parameters in a first data format based on said particular patient parameter type, associated patient and associated patient parameter acquisition interval; and

an output processor for converting said acquired patient parameters in said first data format to a different second data format for output communication of said acquired patient parameters together with a parameter time and date of acquisition indication in said second data format.

17. A method for distributing patient medical parameters, comprising the steps of:

acquiring patient parameters in a first data format from patient monitoring devices attached to a plurality of different patients, said patient parameters being acquired at a user selectable acquisition receiving interval;

filtering acquired patient parameters for an individual patient to identify patient parameters meeting predetermined filtering criteria determinable by a user for,

(a) an individual parameter type, and

(b) an individual patient, and excluding other patient parameters; and

converting said filtered identified parameters in said first data format to a different second data format; and

using said communication interface for output communication of said filtered identified patient parameters together with a parameter time and date of acquisition indication in said second data format.

18. A system for selectively storing patient parameters in a patient medical record, comprising:

a communication interface for receiving patient parameters from patient monitoring devices attached to a plurality of different patients and for bi-directional communicating with a patient medical record repository;

a data processor using said communication interface for filtering acquired patient parameters for an individual patient to identify patient parameters meeting predetermined filtering criteria determinable by a user for,

(a) an individual parameter type, and

(b) an individual patient, and excluding other patient parameters; and

an output processor using said communication interface for communicating said filtered identified patient parameters meeting said predetermined filter criteria, together with a parameter time and date of acquisition indication, for storage in a patient record of said individual patient in said record repository.

19. A system according to claim 18, wherein

for an acquired patient parameter,

said data processor computes a measure representing a function of a difference between a current parameter value and a mean value derived from a user determined number of values preceding said current value and

said data processor identifies whether said current parameter value meets said predetermined filtering criteria based on whether said computed measure exceeds a predetermined user selected threshold value.

20. A system according to claim 19, including

a generator for generating data representing at least one displayed user interface image supporting user selection of,

(i) a particular patient parameter type,

(ii) an associated patient, and

(iii) an associated predetermined user selected threshold value.

21. A system according to claim 19, wherein

said data processor computes said function using a standard deviation value derived from said user determined number of values preceding said current value, and

said data processor identifies whether said current parameter value meets said predetermined filtering criteria based on whether said computed measure exceeds a predetermined user selected threshold value, based on the ratio of the square of the difference between the current parameter value and said mean value normalized by a sample variance.

22. A system according to claim 20, wherein

said generated at least one displayed user interface image supports user selection of said associated predetermined user selected threshold value using a sliding bar with user adjustable slide position.

23. A system according to claim 18, wherein

said data processor acquires patient parameters at a user selectable acquisition receiving interval selectable by a user for,

(i) an individual parameter type, and

(ii) an individual patient.

24. A system according to claim 18, wherein

said data processor filters a current acquired patient parameter value by comparing said current parameter value with a mean value derived from a user determined number of values of said acquired patient parameter preceding said current parameter value.

25. A system according to claim 18, wherein

said data processor filters a current acquired patient parameter value by comparing said current parameter value with a mean value normalized using a standard deviation value derived from a user determined number of values of said acquired patient parameter preceding said current parameter value.

26. A system according to claim 24, wherein

said data processor compares said current parameter value with said mean value using a function involving taking the difference of said current parameter value and said mean value and employing a standard deviation value computed over said user determined number of values of said acquired individual patient parameter preceding said current value.

27. A system according to claim 26, wherein

said function used by said data processor computes a distance measure representing a difference between said current parameter value and said mean value and

said data processor identifies whether a current parameter value meets said predetermined filtering criteria based on whether a computed distance measure value exceeds a predetermined user selected threshold value.

28. A system according to claim 18, including

a display processor for initiating display of said filtered identified patient parameters meeting said predetermined criteria to a user in response to user command.

29. A system according to claim 18, wherein

said output processor uses said communication interface for communicating said filtered identified patient parameters meeting said predetermined criteria, together with data indicating said predetermined filter criteria and an associated patient and parameter type identifier, for storage in a patient record of said individual patient in said record repository.

30. A system according to claim 18, wherein

said individual parameter type includes at least one of, (a) heart rate, (b) respiratory rate, (c) blood oxygen saturation indicator, (d) ventilation related data indicator and (e) anatomical electrical activity indicator.

31. A system for providing a user interface supporting selectively storing patient parameters in a patient medical record, comprising:

a generator for generating data representing at least one displayed user interface image supporting user selection of,

(i) a particular patient parameter type,

(ii) an associated patient, and

(iii) an associated predetermined threshold value;

a data processor for filtering acquired patient parameters based on said particular patient parameter type, associated patient and associated predetermined threshold value using predetermined filtering criteria; and

an output processor for communicating said filtered identified patient parameters meeting said predetermined filter criteria, together with a parameter time and date of acquisition indication, for storage in a patient record of said individual patient in said record repository.

32. A system according to claim 31, wherein

said data processor acquires patient parameters at a user selectable acquisition receiving interval selectable by a user for,

(i) an individual parameter type, and

(ii) an individual patient.

33. A User interface system according to claim 31, wherein

said generated at least one displayed user interface image supports user selection of said associated predetermined threshold value using a sliding bar with user adjustable slide position.

34. A system according to claim 31, wherein

for a patient parameter of said particular parameter type,

said at least one displayed user interface image supports user selection of a user determined number of values preceding a current value to be used in computing a mean value.

35. A system according to claim 34, wherein

said data processor computes a measure representing a function of a difference between a current parameter value and said mean value and

said data processor identifies whether said current parameter value meets said predetermined filtering criteria based on whether said computed measure exceeds said predetermined user selected threshold value.

36. A system for selectively distributing patient parameters, comprising:

a user interface command processor for receiving commands entered via at least one displayed user interface image supporting user selection of,

(i) a particular patient parameter type,

(ii) an associated patient, and

(iii) an associated predetermined threshold value;

a data processor for filtering acquired patient parameters based on said particular patient parameter type, associated patient and associated predetermined threshold value using predetermined filtering criteria; and

an output processor using said communication interface for communicating and distributing said filtered identified patient parameters meeting said predetermined filter criteria, together with a parameter time and date of acquisition indication.

37. A method for selectively storing patient parameters in a patient medical record, comprising the steps of:

receiving patient parameters from patient monitoring devices attached to a plurality of different patients and for bidirectionally communicating with a patient medical record repository;

filtering acquired patient parameters for an individual patient to identify patient parameters meeting predetermined filtering criteria determinable by a user for,

(a) an individual parameter type, and

(b) an individual patient, and excluding other patient parameters; and

communicating said filtered identified patient parameters meeting said predetermined filter criteria, together with a parameter time and date of acquisition indication, for storage in a patient record of said individual patient in said record repository.